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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,969	02/12/2004	Hsueh-Chin Liao	0195-31UA	7441

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EXAMINER
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YEAGLEY, DANIEL S

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/777,969

Applicant(s)

LIAO ET AL.

Examiner

Daniel Yeagley

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 8-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cam structure of the quick release clamp cited in claim 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. The second occurrence of Claim 18 is objected to and should be change to succeeding claim 20. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 4, the terms “the main frame tube” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 - 3, 7, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Chou '284.

Chou discloses an electrically powered bicycle that shows a front fork assembly rotatably mounted to a front portion of a frame having inherent removable connected handlebar tube connected to a handlebar at an upper portion of the front fork assembly, a seat tube extending from an upper surface of a main frame tube 11 with a pair of structures 14 of a rear fork

Art Unit: 3611

assembly that extend from opposite sides of a rear portion of the frame with a wheel mounting bracket positioned below the main frame tube and a rear wheel attached there between (figure 1), and includes a drive mechanism comprising a first gear 311 connected to a shaft of an electric motor 31 with a plurality of teeth engaged with a second gear 33 connected to the wheel which provides a rotating force to the wheel and is disposed between an adjacent electric motor and the wheel, such that the motor is mounted between an inner surface of one of the structures and the wheel (figure 7).

7. Claims 17 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Daudt '754.

Daudt discloses an electrically powered bicycle having a foot rest tube connected to the front portion of a frame with ends that extend outwardly and wherein a front fork assembly is rotatably mounted to a front portion of a frame with inherent quick release clamp means for removably connecting a handlebar tube and a handlebar to an upper portion of the front fork assembly (figure 7 and 13, page 3, paragraph, 24 and 26), and a rear wheel attached between a pair of structures 101 of a rear fork assembly that extends from a rear portion of the frame (figure 1), and includes an electric motor 110 coupled to the rear wheel which provides a rotating force to the wheel (figure 1 and 8).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3611

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daudt '754 in view of Chou 284.

Daudt as stated above disclosed an electrically powered bicycle having an electric motor coupled to the rear wheel via a drive mechanism (figure 1 and 7) but failed to disclose the drive mechanism having a first gear connected to a shaft of the electric motor with a plurality of teeth meshed with a plurality of teeth of a second gear connected to the rear wheel.

Chou as stated above also discloses an electrically powered bicycle which shows a drive mechanism comprising a first gear 311 connected to a shaft of an electric motor 31 with a plurality of teeth engaged with a second gear 33 connected to the wheel which provides a rotating force to the wheel and is disposed between an adjacent electric motor and the wheel as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the drive mechanism of Daudt electrically powered bicycle with an alternative drive means such as first gear connected to a shaft of an electric motor with a plurality of teeth engaged with a second gear connected to the wheel such as disclosed by Chou drive mechanism in order to alternatively provide a rotating force to the wheel by the electric motor.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daudt '754 in view of Yeh '955.

Daudt as stated above disclosed an electrically powered bicycle wherein a handlebar tube and handlebar are assembled to an upper portion of the front fork assembly by an inherent quick release clamp means for removably connecting the handlebar assembly (figure 7 and 13, page 3, paragraph, 24 and 26) but failed to show the clamp means having a rotating cam structure..

Yeh discloses a bicycle having a handle bar tube removably connected to an upper portion of a front fork assembly via a quick release clamp (figure 4, column 2-3) that utilizes a rotatable cam structure to tighten the quick release clamp as claimed as best understood.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated a cam structure into the quick release clamp means of Daudt electrically powered bicycle handle bar tube assembly with a modified rotating cam structure in order to more quickly tighten the clamp means to conveniently retain the handle bar assembly in a desired position as is well known and old in the clamp art.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chou '284 in view of Yeh '955.

Chou as stated above disclosed an electrically powered bicycle having a rear fork assembly that shows a pair of structures 14 that extend from a rear portion of the frame, wherein the wheel mounting bracket is positioned below the main frame tube 11 and having the first tube of the structure extending from the wheel mounting bracket to the seat tube and the second tube of the structure extending from the wheel mounting bracket to a central portion of the frame but failed to show the second tube extending to the central portion of the main frame tube.

Yeh discloses a bicycle frame structured (figure 1) such that the rear fork assembly utilizes a first tube structure 6 that extend from the wheel mounting bracket of the rear fork assembly to the seat tube above the main frame tube 15 and further constructed so that the second tube 3 and 5 of the structure which extends from the wheel mounting bracket up to a central portion of the main frame tube as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the rear fork assembly of Chou bicycle frame with an alternative rear fork structure having a tube that extends to a central portion of the main frame or a simple alternative style bicycle frame such like the one shown by Yeh bicycle frame having a rear fork structure that extends to the main frame tube simple as a matter of design choice dependent upon user preference since the examiner takes Official Notice of the equivalence of Chou bicycle frame and Yeh bicycle frame for their use in the bicycle frame art and the selection of any of these known frame equivalents to support the bicycle would be within the level of ordinary skill in the art and would have been an obvious matter of design choice to utilize different styles of frames, and since applicant has not disclosed that the rear fork assembly solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a rear fork structure of Chou.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chou '284 in view of Mayer et al '401.



Chou as stated above disclosed an electrically powered bicycle having an electric motor mounted adjacent to the wheel with a drive mechanism disposed between the motor and the wheel but failed to show the diameter of the electric motor being greater than the thickness of the electric motor.

Mayer shows an electrically powered bicycle having an electric motor 104 mounted adjacent to the rear wheel (figure 3, column 2), wherein the diameter of the electric motor of Mayer is greater than the thickness of the electric motor as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electric powered motor means of Chou electric powered bicycle with an alternative electric motor drive mechanism such as suggested by Mayer motor driven bicycle having a motor with a greater diameter than the thickness of the motor which is smaller and more compact for added aesthetics and in order to reduce weight, parts, maintenance and cost.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chou '284 as modified by Mayer et al '267 in further view Shirazawa '551.

Chou as modified by Mayer disclosed an electrically powered bicycle having an electric motor mounted adjacent to the wheel having a diameter of motor that is greater than the thickness of the electric motor as claimed but failed to disclose the details of the motor, wherein the electric motor comprises a permanent magnet direct current motor having a disc-shaped rotor.

Shirazawa shows an electrically powered bicycle having an electric motor adjacent to the wheel (figure 1, page 2) which discloses the features of the electric motor 62 being a permanent magnet direct current motor having a disc-shaped rotor 90 as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the electric powered motor of Chou electric powered bicycle as modified by Mayer electric motor which further incorporates known electric motor features such as a permanent magnet direct current motor with disc-shaped rotor as suggested by Shirazawa to rotational drive the wheel of the bicycle simple as an alternative more compact electric motor which applicant further acknowledges as being well known in the art (page 7).

***Allowable Subject Matter***

14. Claims 14 – 16 are allowed.

15. Claims 8 – 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: none of the references found alone or in combination disclosed an electrically powered bicycle having a control unit electrically connected to the electric motor, to the battery, and to the momentary pushbutton switch,

Art Unit: 3611

wherein the momentary pushbutton switch is configured to provide electrical power from the battery to the electric motor dependent upon a number of times the momentary pushbutton switch is pressed and released within a predetermined period of time to provide a rotating force to the wheel which is coupled to the electric motor as distinctively claimed.

### *Conclusion*

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Montague et al '551 and Chao '696 show a bicycle with a cam operated quick release clamp.

Mayer et al '267, Yaguchi '448, Cunard '060, Kutter '335, Nishimura '998, Kerjan '333 and Wingenbach '769 show various electrically powered bicycles.

Takata '501, Turner '366 show a motor driven bicycle having a power source and control unit housed in the frame of the bicycle.

Searcy, II et al '721 discloses a control means for a DC motor.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Yeagley whose telephone number is **703 - 305 - 0838**.

The examiner can normally be reached on Mon. - Fri; first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D Morris can be reached on **703 - 308 - 0629**. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3611

In the near future, because of a pending move of the examining corps to a new campus, the examiner and SPE telephone numbers will change to 571 - 272 - 6655 and 571 - 272 - 6651; respectively.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LESLEY D. MORRIS

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